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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,861	07/20/2005	Christoph Wagner	P/2107-277	4370
2352 7590 12/10/2007 OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403			EXAMINER VANCHY JR, MICHAEL J	
			ART UNIT 2624	PAPER NUMBER
			MAIL DATE 12/10/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/536,861	WAGNER ET AL.	
	Examiner	Art Unit	
	Michael Vanchy Jr.	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :09/25/2006, 08/29/2005, 05/27/2005.

DETAILED ACTION

Claim Objections

1. Claims 9 and 11 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-13, 17, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Nayar et al., 4,912,336.**

Regarding claim 1:

A method for at least one of optical shape recording and evaluation of optically smooth, glossy or optically rough surfaces (Abstract, col. 2, lines 38-39, col. 8, lines 12-20, and col. 9, lines 51-55), comprising combining a photometric stereo method and a deflectometric method with a scattering body (Fig. 3) so that positions on a surface of the scattering body are two-dimensionally encoded (col. 6, lines 20-26) by selecting the shape of the scattering body (Abstract) such that one normal vector is uniquely allocated to each position on the scattering body surface (Fig. 3, col. 4, lines 43-46, and

col. 5, lines 61-64), a luminance back-scattered by the scattering body is uniquely allocated to each normal vector, and the back-scattering luminances are allocated to the illumination strengths of recorded images (col. 2, lines 16-24, col. 5, lines 15-20, and col. 7, lines 8-25).

Regarding claim 2:

The method as in claim 1, wherein the scattering body (S) has the shape of a sphere, an ellipsoid, a rotationally symmetric body or parts thereof (Fig. 3, col. 6, lines 20-26).

Regarding claim 3:

The method as in claim 1, further comprising providing the result of the shape recording and the evaluation in the form of a software file (col. 2, lines 38-39 and col. 8, lines 12-20).

Regarding claim 4:

The method as in claim 1, further comprising recording and evaluating using an electronically operating camera (Fig. 3 item "14," and col. 2, lines 25-27).

Regarding claim 5:

The method as in claim 4, wherein the camera is a color camera (Fig. 3 item "14," col. 9, lines 4-21, and col. 2, lines 25-27, The examiner takes into account that since the "surface orientation and reflectance information produced by the extraction algorithm was color-coded and displayed on a color monitor," it is clear that the camera is a color camera.).

Regarding claim 6:

The method as in claim 1, further comprising illuminating the surface with color-coded illumination (col. 9, lines 18-21).

Regarding claim 7:

The method as in claim 1, wherein the scattering body comprises an extended luminous scattering body surface for reducing coherent speckle noise (Fig. 3, col. 6, lines 20-26).

Regarding claim 8:

The method as in claim 1, wherein the recording and evaluating comprises at least one of visualizing and electronically evaluating at least one of a local gradient and a local normal vector of the surface (Fig. 3, col. 9, lines 18-21 and 51-55).

Regarding claim 9:

The method as in claim 8, comprising at least one of visualizing and electronically evaluating at least one component of at least one of the local gradient and the local normal vector of the surface (Fig. 3, col. 9, lines 18-21 and 51-55).

Regarding claim 10:

The method as in claim 8, wherein the at least one of the local gradient and the local normal vector is represented by being encoded as at least one of a grayscale and color shade (Fig. 3, col. 9, lines 18-21 and 51-55, The examiner takes into account that a color camera can also represent items in a grayscale.).

Regarding claim 11:

The method as in claim 9, wherein the at least one component of the at least one of the local gradient and the local normal vector of the surface is represented by being encoded as at least one of a grayscale and color shade (Fig. 3, col. 9, lines 18-21 and 51-55, The examiner takes into account that a color camera can also represent items in a grayscale.).

Regarding claim 12:

A device for optical shape measurement, for at least one of optical shape recording and evaluation of optically smooth, glossy or rough surfaces (Abstract, col. 2, lines 38-39,

col. 8, lines 12-20, and col. 9, lines 51-55) by combining a photometric stereo method and a deflectometric method comprising (Fig. 3): at least one optical recorder for receiving illumination reflected off the surfaces (Fig. 3, item "14"), and at least one light source (Fig. 3, items "Pi") and a scattering body positioned to scatter illumination (Fig. 3, item "16").

Regarding claim 13:

The device as claimed in claim 12, wherein the scattering body has at least one of at least partially a spherical, ellipsoid and rotationally symmetric structure (Fig. 3, col. 6, lines 20-26).

Regarding claim 17:

The device as claimed in claim 12, wherein the optical recorder comprises a camera (Fig. 3, item "14").

Regarding claim 18:

The method as claimed in claim 1, further comprising illuminating the surface (Abstract).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nayar et al., 4,912,336 as applied to claim 12 above, and further in view of Examiner's own knowledge in the art.

Regarding claims 13-16, the examiner realizes that Nayar et al. (Nayar) is silent on using a microscope and a microscope objective for optical imaging as well as using an LED (light-emitting diode) or a flash lamp for the illumination. However, Nayar does use a device for optical imaging (Fig. 3, item "14") and light sources for illumination (Fig. 3, items "Pi"). The examiner takes official notice that using a microscope for optical imaging as described by the applicant, an LED or flash bulb for illumination is notoriously well known in the art, and therefor could be used to modify Nayar's invention.

Examiner's Note

The referenced citations made in the rejection(s) above are intended to exemplify areas in the prior art document(s) in which the examiner believed are the most relevant to the claimed subject matter. However, it is incumbent upon the applicant to analyze the prior art document(s) in its/their entirety since other areas of the document(s) may be relied upon at a later time to substantiate examiner's rationale of record. A prior art reference must be considered in its entirety, i.e., as a whole, including portions that

would lead away from the claimed invention. W.L. Gore & associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). However, "the prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed...." In re Fulton, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Vanchy Jr. whose telephone number is (571) 270-1193. The examiner can normally be reached on Monday - Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached on (571) 272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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